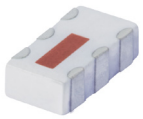
CERAMIC

Dual Low Pass Filter LFCN-291-1PM+

50Ω DC to 290 MHz

THE BIG DEAL

- Differential operation
- Small size, 1206
- Wide stopband, up to 2000 MHz without re-entry
- Good power handling, 2W
- Balanced input-balanced output
- Temperature stable



Generic photo used for illustration purposes only

CASE STYLE: FV1206-1

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

APPLICATIONS

- Harmonic rejection
- VHF/UHF transmitters/receivers
- Lab use
- Used with PMC-Sierra's PM8910/11/12/13

PRODUCT OVERVIEW

Mini-Circuits' LFCN-291-1PM+ is dual low pass filter which can function as differential low pass filter with a passband from DC to 290 MHz. This model is ideal for applications requiring filtering of balanced signals on dual 50Ω lines such as DACs/ADCs, systems with very low noise requirements and more. The filter provides low insertion loss in the passband, fast roll off in the transition, and a very wide stopband without re-entry up to 2000 MHz, making it suitable for use in wideband systems with many harmonics and spurious products. The unit comes housed in a tiny, rugged 1206 ceramic package, with wraparound terminations for excellent solderability.

KEY FEATURES

Features	Advantages
Differential filter	Allows filtering of balanced signals in a single, tiny component. Eliminates the need for binning and matching of separate discrete components
Tiny size (0.126 x 0.063 x 0.035")	Saves space in dense circuit board layouts and minimizes the effects of parasitics
Fast roll off	Provides sharp rejection at frequencies close to the passband.
Wide stopband	Provides excellent rejection over more than a decade of bandwidth, ideal for blocking harmonics in wideband test and measurement or communications systems
Wrap-around terminations	Provides excellent solderability and easy visual inspection.
Wide operating temperature range, -55 to +125°C	Enables reliable performance in extreme environments.

REV. B
ECO-014271
LFCN-291-1PM+
EDU4072
URJ
220721

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ELECTRICAL SPECIFICATIONS[1,2] AT 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	DC - 290	—	2.0	3.5	dB
	Freq. Cut-Off	F2*	325	—	3.0	—	dB
	Return Loss	DC-F1	DC - 290	—	20	—	dB
Stop Band	Rejection Loss	F3	460	20	—	—	dB
		F4-F5	600 - 2000	37	45	—	dB

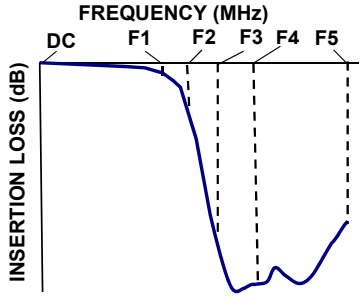
1 DC de-coupling capacitors are required in Applications where DC voltage and/or current is present at either input or output ports. Please contact Mini-Circuits for alternatives if DC pass from IN-OUT is required.
2 Measured on Mini-Circuits Characterization Test Board TB-255+
* Typically, a ±5% frequency deviation from the stated value may occur on a unit-to-unit basis.

MAXIMUM RATINGS

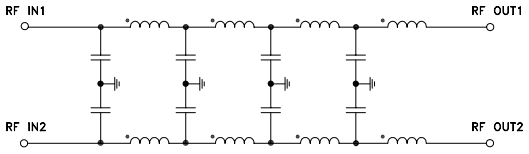
Parameter	Ratings
Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
RF Power Input*	2 W max. @25°C

*Passband rating, derate linearly to 0.4W at 125°C ambient
Permanent damage may occur if any of these limits are exceeded.

TYPICAL FREQUENCY RESPONSE



FUNCTIONAL SCHEMATIC



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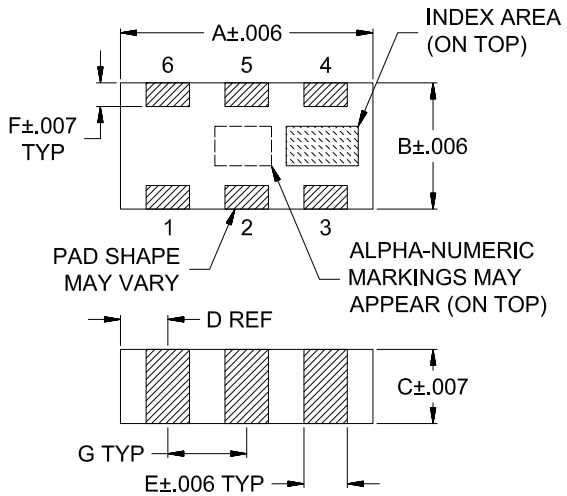
PAD CONNECTIONS

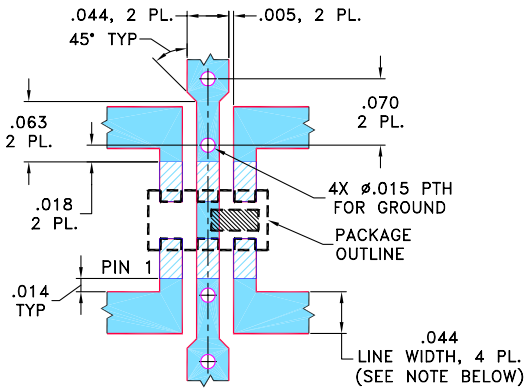
RF IN1, RF IN2	1,6
RF OUT1, RF OUT2	3,4
GROUND	2,5

OUTLINE DRAWING



PRODUCT MARKING: UJ

DEMO BOARD MCL P/N: TB-255+
SUGGESTED PCB LAYOUT (PL-131)



NOTES: 1.TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2.BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

OUTLINE DIMENSIONS (Inches / mm)

A	B	C	D	E	F	G	Wt.
.126	**.063**	**.035**	**.024**	**.022**	**.011**	**.039**	grams
3.20	1.60	0.89	0.61	0.56	0.28	0.99	.020

Note. Please refer to case style drawing for details

TAPE & REEL INFORMATION: F75

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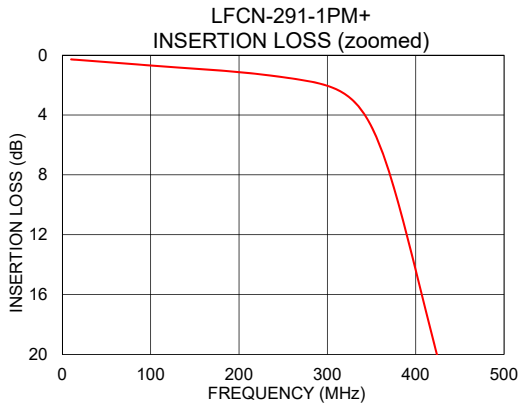
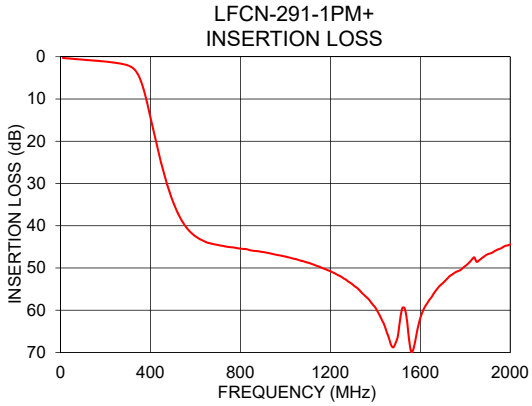
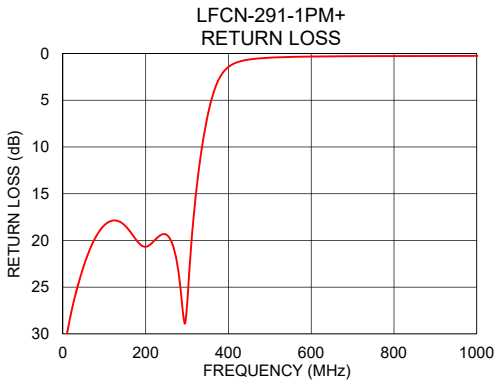
TYPICAL PERFORMANCE DATA AND CHARTS AT 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
10	0.29	29.93
50	0.46	22.76
100	0.69	18.37
290	1.88	27.74
325	2.83	13.59
330	3.09	11.85
460	27.66	0.58
480	31.25	0.50
500	34.31	0.44
600	42.51	0.32
700	44.56	0.28
1000	47.30	0.25
1500	66.15	0.23
1800	49.54	0.22
2000	44.41	0.23







NOTES

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp